1. When did the study start and end in East Liverpool?
There is not study end date. Data were collected in East Liverpool, OH in November of 2011. Data analyses continue including using data collected in Marietta in August of 2009.

2. What's the source of manganese exposure there?
Ohio EPA identified the S.H. Bell Company, a raw products storage and packaging facility.

3. What were some of the significant differences comparing the three communities? (Such as measured amount of exposure and reduced motor skill/ neurological functioning)

- Neurological assessment:
  - East Liverpool residents showed slower movement initiation (results in delays in onset of movement) than Mount Vernon residents, but were slightly better than Marietta residents.
  - More hand tremors (involuntary shaking) were observed in East Liverpool residents than Marietta residents.
  - East Liverpool residents had more postural sway/instability (involuntary swaying or instability when standing on both feet) than Marietta and Mount Vernon
- Neuropsychological tests:
  - Scores in all three communities were within normal range, except for divided memory, visual memory, and motor speed.
  - East Liverpool residents had lower scores for immediate memory (daily living) than Marietta
  - East Liverpool residents had lower scores than Marietta and Mount Vernon for word reading, motor speed, motor strength and motor tactile.

4. What health and neurological effects are definitively linked to manganese exposure?
It is unknown what effects occur at low-level exposures. People who have long-term exposure to high levels of manganese compounds may develop central nervous system problems which look like Parkinson's disease. This syndrome is called "manganism."

5. If not definitively, what effects are possibly correlated?

6. What's next? More research in any of the three cities? Different test subjects?
The findings outlined at the East Liverpool public meeting were preliminary and portions have not been fully peer reviewed (most EPA scientific and technical work products must receive appropriate levels of peer review by independent scientific and technical experts). Ongoing data analysis may revise the conclusions slightly and additional research may be necessary. A website has been established which will be updated with any new findings and publications.
Go to: http://www.epa.gov/nheerl/mnstudy